Fermilab

UPC 011

October 6, 1978

To: Mike Harrison
From: S. Ohnuma S.O.

Doubler Dipole File

Alvin Tollestrup and Helen Edwards asked me to make a file of harmonic components, body and two ends combined. Apparently, Alvin is tired of doing it.

Files I will make will be called DCH1.DAT, DCH2.DAT, etc., all in my area of PDP10, DSKC, [103, 123]. Each file will contain data on ten magnets in the order they are measured. In addition, there will be a file called ACH1.DAT, etc., again ten magnets in each file, for harmonic components measured in AC mode. For AC measurements, they usually do the center field only.

Following suggestions from Alvin and Helen, I give data at 500A, 1,000A and 4,000A. If the data at 4,000A are not available, I give data at the highest available current. Harmonic components (normal and skew) are

$$[(\int \Delta B \, d\ell) \text{ at } x=+1", y=0] \; / \; [\int B \, d\ell \,] \quad \text{in } 10^{-4}.$$

For each magnet,

the first line:	name (5x, 6A1)	example RDC113
the second line:	number of current (I10)	
	this is usually 3	
the third line:	current in amps (I10)	
	usually 500, 1000, and 4000	
the 4th to 6th:	fourteen harmonic contents	(5x,5F12.6)

The third to 6th lines are repeated, first for the normal components and then for the skew components. I am attaching the first page of DCH1.DAT.

As more data become available, I will keep making files, ten magnets per file, until the total size becomes unmanageable.

cc: H. Edwards
A. Tollestrup
T. Collins
D. Edwards
F. Cole

Files created so far (10/6/78)

DCH1.DAT[103,123]	DCH2.DAT[103,123]	ACH1.DAT[103,123]
RDA101	PBA119	PBA118 *
RDC113	RFA108	PBA119
RDD114	PBA120	PBA120 **
REA105	PAH98	PAH98
RHA111	PAH95	PAH95
RDA103	PBA115	PBA115 ***
RFA107	PCA130	PCA130
REA104	PBA124	PBA124
RDA102	PBA123	PBA123
PBA118	PBA117	PBA117

*) Body and two edges combined. All other magnets in ACH1.DAT are body only.

**) The original data are 100 times larger than the true values.

***) Center position uncertain. In the file, $X_c = 0.$ and $Y_c = 0.25$ cm are assumed.